

withstand being dropped five times from a height of five feet on an oak platform in the presence of explosive methane-air mixtures. (In these tests Pittsburgh natural gas may be substituted for methane.) The safety elements of the fixture must function so that no explosion or fire hazard exists at any time during or after the tests. (Breakage of a fluorescent lamp will not in itself constitute test failure.)

(b) The fixture must be enclosed in an explosion-resistant housing that will afford mechanical protection and withstand a minimum of ten internal explosion tests in surrounding explosive atmospheres containing air with 7.0 to 10.0 percent of methane without (1) igniting the surrounding atmosphere, or (2) permanently distorting of any part of the fixture.

(c) Plastic material used in place of glass for lighting fixtures must not create explosion, fire, or toxic hazards when subjected to normal maximum operating temperatures.

§ 26.11 Specifications; explosion-proof lighting fixtures.

(a) All lighting fixtures that cannot be designed intrinsically safe shall be constructed strictly in accordance with the applicable requirements of Part 18 of this subchapter (Schedule 2F).

(b) Transparent plastics used in place of glass shall be of the thickness required of glass and shall not crack or shatter when struck by dripping cold water.

§ 26.12 Specifications; cable connectors.

(a) Connectors shall be constructed so as to afford a minimum of accessibility to live electrodes by any means other than the related plug.

(b) The material of which cable connectors are made must be equivalent to the insulation on the cables with respect to flame-resistant properties.

(c) Cable connectors shall meet the following requirements:

(1) A connector designed for a nominal 240-volt system shall be engaged and disengaged through 750 cycles under its rated load at 260 volts alternating current at 80 percent power factor.

(2) A connector designed for a nominal 120-volt system shall be engaged and disengaged through 750 cycles under its rated load at 130 volts alternating current at 80 percent power factor.

NOTE: The tests described in paragraphs (c) (1) and (2) of this section will be performed mechanically in the presence of explosive atmospheres containing air with 7.0 to 10.0 percent of methane. Ignition of the surrounding explosive atmosphere, destructive burning, distortion, and excessive temperature constitute failure.

(3) Under normal load, no part of any cable connector shall attain a temperature in excess of 175°F. during any of the prescribed tests.

(4) At 260 volts impressed, one cable connector shall be subjected to a short-circuit test at the maximum capacity of a 5 KVA transformer. The connector components will be mechanically engaged with the cable on the male portion short circuited at the plug. A time lag fuse of the maximum current rating of the connector will be connected in the circuit.

NOTE: The connector used for this test will be one already subjected to the cycling test described in paragraphs (c) (1) and (2) of this section.

Fusing of the contacts will constitute a failure.

(d) Cable connectors must be so designed that they will withstand a pull of 25 pounds without separating subsequent to the cycling tests described in paragraphs (c) (1) and (2) of this section.

§ 26.13 Specifications; portable cables.

(a) All portable cables shall have 600-volt insulation and shall have an outer jacket that is highly resistant to abrasion, moisture, and heat. They shall meet the flame-resistance requirements of Part 18 of this subchapter (Schedule 2F).

(b) The minimum conductor size acceptable for lighting circuits shall be No. 14 (AWG). In any case, cables must have conductors of a size equal to or greater than the National Electric Code standard. The current carrying capacity shall be based upon the maximum load that will be carried by the cables in normal service.